



SP 22-96

### COAST GUARD SPECIAL PERMIT 22-96

This Special Permit is issued pursuant to 46 CFR 148.01-9 of the U.S. Coast Guard (USCG) Carriage of Solid Hazardous Materials in Bulk Regulations to authorize bulk shipments of metal sulfide concentrates under conditions as described herein. This permit does not relieve any shipper or carrier from compliance with any applicable requirement of 46 CFR 148 of the USCG Regulations, except as specifically provided for herein.

1. **BASIS** -Cominco America's facsimile letter of August 21, 1996
2. **COMMODITY** - Zinc Concentrate.
3. **PROPER SHIPPING NAME AND IDENTIFICATION NUMBER**  
  
USDOT - ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID,N.O.S (CONTAINS LEAD SULFIDE). UN 3077.  
  
IMO - METAL SULFIDE CONCENTRATE. (No UN number).
4. **REGULATION WAIVED OR AFFECTED** - 46 CFR 148.01-7.
5. **AUTHORIZED SHIPPER**- Cominco America
6. **MODE OF TRANSPORTATION AUTHORIZED** - Cargo vessel and unmanned covered barge.
7. **CLASSIFICATION** -  
  
IMO: Material Hazardous Only in Bulk (MHB).  
  
USDOT: Class 9 (Only metal sulfide concentrates containing 0.02% or more lead sulfide by weight).
8. **PROPERTIES** - Solid, finely divided sulfide concentrate of iron, lead, zinc or other metalliferous ores. Liable to oxidation and may have a tendency to self-heat with associated oxygen depletion and emission of toxic fumes. Some metal sulfide concentrates may present corrosion problems. Subject to liquefaction if its moisture content exceeds its flow moisture

point. Metal sulfide concentrates containing a significant amount of lead sulfide are skin irritants and are hazardous if ingested or inhaled.

#### 9. SPECIAL TRANSPORTATION REQUIREMENTS -

- a. The shipments must be made to or from a designated waterfront facility that meets the requirements of 33 CFR 126.05(a) or a midstream anchorage acceptable to the cognizant Coast Guard Captain of the Port.
- b. The cognizant Coast Guard Captain of the Port must be informed at least 24 hours in advance of loading operations.
- c. A metal concentrate may not be loaded if its temperature is 54.4°C (130°F) or higher.
- d. The shipper shall provide the master of the vessel with information on the safety precautions and emergency procedures associated with the shipment of metal sulfide concentrates
- e. The loading operations must be supervised by a person familiar with the safety precautions and emergency procedures associated with handling the specific metal sulfide concentrate to be loaded. The loading operators must be trained in the appropriate safety precautions and emergency procedures for handling metal sulfide concentrates.
- f. During loading and unloading operations, precautions must be taken to minimize personnel exposure to dust, including maintenance of OSHA permissible exposure limits (PELs). Persons working in contact with metal sulfide concentrates containing lead sulfide must wear protective clothing and gloves. If clothing becomes contaminated, it must be cleaned before reuse. When necessary, and in accordance with OSHA regulations, (29 CFR 1910.134), dust respirators must be worn.
- g. During loading and unloading operations, smoking, eating and drinking shall be prohibited in the holds and other stowage spaces, on the weather deck of the vessel or barge and in the vicinity of cargo handling operations.

- h. During loading and unloading operations, precautions must be taken to minimize dispersal of this material to the environment.
  - i. Fire hoses may be used to suppress dust if practicable and if such procedures do not allow moisture into the cargo holds.
  - j. To prevent dispersal of the material the hatch covers must be closed at all times except during loading and unloading.
- k. Cargo vessel:
- (1) Prior to loading, the shipper shall provide the master of the vessel with detailed information regarding the hazards associated with the specific metal sulfide concentrate to be loaded and precautions to be followed during transportation of the concentrate. This information shall include the liquefaction potential, the need to exclude water, the actual moisture content of the cargo, the flow moisture point, the transportable moisture limit, stowage factor, angle of repose, associated dust hazards, and any potential to generate toxic gases or deplete oxygen.
  - (2) Prior to loading metal sulfide concentrates, the hold of the vessel must be thoroughly cleaned of all residues of previous cargoes, loose debris and dunnage, and must be as dry as reasonably practicable.
  - (3) A metal sulfide concentrate may not be loaded on a cargo vessel if its overall contained moisture, as determined by Appendix D.1 of the *Code of Safe Practice for Solid Bulk Cargoes* published by the International Maritime Organization (IMO), exceeds the Transportable Moisture Limit (90% of the flow moisture point), unless the vessel is specially fitted as prescribed in Section 7.2.2 of the *Code of Safe Practice for Solid Bulk Cargoes*.
  - (4) Combustible materials, foodstuffs, or Class 8 (corrosive) liquids may not be stowed in a cargo space that contains a metal sulfide concentrate.

- (5) Liquid cargoes may no be stowed in the same hold with a metal sulfide concentrate and precautions must be taken to prevent the entry of liquids into a hold containing metal sulfide concentrates.
  - (6) After loading, the cargo must be trimmed reasonably level to the boundaries of the hold. (Mechanical spout trimming will in most cases adequately distribute the cargo within the hold or compartment.)
  - (7) At least two self-contained pressure-demand type air breathing apparatus approved by the Mine Safety and Health Administration (MSA) or the National Institute for Occupational Safety and Health (NIOSH), each having a thirty minute capacity, or an equivalent apparatus approved by the vessel's flag state administration, must be carried on board the vessel. The master shall ensure that the breathing apparatus is used only by persons trained in its use.
  - (8) If the information provided under paragraph 9.k.(1) indicates that the metal sulfide concentrate may generate toxic gases, appropriate toxic vapor detection equipment must be on board the cargo vessel. At least two members of the crew must be knowledgeable in the use of this equipment, which must be maintained in a condition ready for use.
  - (9) Before any person enters a hold containing a metal sulfide concentrate, the master or other responsible ship's officer must determine that it is safe to do so, taking into account all safety precautions. Confined space entry procedures must follow Appendix F of the *IMO Code of Safe Practice for solid Bulk Cargoes*.
- k. No one may enter a hold of a vessel or cargo compartment of a barge containing a metal sulfide concentrate unless an emergency situation exists and the person entering is wearing appropriate self contained breathing apparatus or -
- (1) the atmosphere in the hold or compartment has been tested and contains oxygen at a concentration of not less than 19.5%. and

- (2) If the metal sulfide concentrate may generate the sulfur dioxide or hydrogen sulfide, the atmosphere in the hold or cargo compartment has been tested for toxic gases and the concentration of toxic gases is less than the following threshold limit values (TLV):

Sulfur Dioxide -----2.0%  
Hydrogen Sulfide -----10.0%

1. Disposal of cargo residues and contaminated items must be in accordance with applicable EPA and State laws and regulations.
  - m. Each bill of lading, shipping order, or other shipping paper issued in connection with shipments under the terms herein, must bear the notation "USCG Special Permit 22-96."
  - n. When metal sulfide concentrates are being transported by cargo vessel, a copy of this permit and the shipper's Material Safety Data Sheet (MSDS) must be on board the vessel. When this material is transported by unmanned barge, a copy of this permit and the MSDS must be on board the tug or towing vessel. When the barge is moored, the shipping paper and a copy of this Special Permit and the MSDS must remain on the barge in a suitable location.
10. **REPORTING REQUIREMENTS** - Any incident or casualty occurring while shipping under the terms of this permit shall be reported in accordance with 49 CFR 171.15, and a copy of the written report forwarded to the Commandant (G-MSO-3), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593-0001 at the earliest practicable moment. Any release of antimony, arsenic, copper, or lead in excess of its reportable quantity shall be reported as required by the EPA regulations in 40 CFR Part 302. In addition, a record of experience under the terms of this special permit including any casualties or difficulties encountered must be sent to the Commandant (G-MSO-3) upon request for renewal.

11. **EXPIRATION DATE** - August 31, 2000.

Authorized by:

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K. S. COOK  
Commander, U.S. Coast Guard  
Chief, Hazardous Materials  
Standards Division  
By direction of the Commandant

DATE